

Case Study ID

95-0020



ENERGY OFFICE

Case Study Series

Saving Energy in Michigan's Schools Kalamazoo Valley Intermediate School District Lighting Upgrade & Night-time Setback Controls

Lighting upgrade offers considerable savings at 3 district school buildings, providing a 3.57-year payback.

Overview

In 1995, the Kalamazoo Valley Intermediate School District selected three buildings for energy efficient lighting upgrades and other improvements: the Croyden Avenue School, the Service Center and Youth Opportunities Unlimited.

The lighting upgrade consisted of replacing older technology fluorescent lighting with energy efficient electronic ballasts and 34-watt T8 lamps. By installing the energy saving ballasts and lamps, the school district is saving more than \$25,000 per year in electricity costs.

Although lighting was the primary energy saving measure, other improvements included:

- adding night temperature setback controls to reduce perimeter heating requirements at all buildings (added dual temperature night thermostats and setback thermostats for secondary piping loops)
- reducing infiltration at Croyden Avenue School by creating an entrance vestibule inside the main entrance and sealing an air gap between soffit and return air plenum around the building's perimeter, which reduced the major sources of heat loss for the building
- converting the constant volume air delivery system in the Service Center to variable air volume (VAV) by adding variable speed motor controllers with static pressure control

The VAV retrofit at the Service Center accounted for another \$15,000 per year reduction in energy costs. At an installation cost of \$47,970, this measure provided a payback of 3.16 years. The individual paybacks for other measures ranged from nine months to four years.

Project Cost

Total cost for the entire 3-building project was \$154,200. With projected annual energy savings of \$52,845, these measures paid for themselves in three years.

Funding

A federal grant program funded by the U.S. Department of Energy assisted Kalamazoo Valley ISD in funding the lighting upgrade and additional measures. Although this program is no longer available, the Michigan Department of Consumer & Industry Services, Energy Office (EO) has developed a low-cost financing program to allow all public schools in Michigan to obtain financing for energy improvements.

For more information about low-cost financing, please contact :

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